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TECHNOLOGY****ONLINE BLOOD AND ORGAN TRANSPLANT MANAGEMENT SYSTEM****Mayur Prajapati, Dungar Singh Bhati, Yash Shukla, Harshvardhan Joshi.****Project Guide – Prof. Allan Lopes.**

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ABSTRACT

Blood is an important aspect for all living things. It proves to be a lifesaving component in case of emergency requirement. In this users can view all the information provided. The main aim of developing this application is to reduce the time to a great extent that is spent in searching for the right donor and the availability of blood required. As well as User can register himself for his/her organ donation after his/her death to the needed ones.

KEYWORDS: - Blood Bank, Donors, Acceptors, Administrator, Android application.**INTRODUCTION**

The need for blood and organ is great as it is life, as there is no replacement for human blood and organ. Every day blood and organ is required in hospitals and emergency treatment facilities for patients with Cancer, Thalassemia and other diseases, for organ transplant recipients, and to help save the lives of accident/trauma victims. With a growing population and advances in medical treatments and procedures requiring blood transfusions, the demand for blood and organ continue to increase. In India many people are losing their lives every day in emergency situations because we are suffering from lack of blood and organ in blood and Organ Banks, and they do not receive the blood and organ timely.

Table 1: Uses of donated blood[6]

Place of blood need	Amount of blood and its component require
1. Automobile Accident	50 units of blood
2. Heart Surgery	6 units of blood / 6 units of platelets
3. Organ Transplant	40 units of blood / 30 units of platelets
4. 20 bags of cryoprecipitate	25 units of fresh frozen plasma
5. Bone Marrow transplant	120 units of platelets/ 20 units of blood
6. Burn Victims	20 units of platelets

Their relatives and friends start searching for a donor to help, but there is no guarantee whether he will come or not. On the other hand, there are a lot of people who are willing to help and donate. There are numbers of existing systems have become increasingly tried to activate the blood and organ donation process. However, this is still inefficient up to day. Besides, we propose to use the latest technologies and the available tools to find a modern system which fills the gap and provides an organized solution. Our system has a quick mean to find the donors easily by their nearest location, available time, and same blood type, facilitate the search process for needy people and make it easier than before. Increase number of donors by increasing the facilities provided to them and to increase the awareness of the society about the importance of blood donation. Our system facilitates the donation process in our country.

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Table 2: Frequency of Blood Types

O+ 1 person in 3	O- 1 person in 15
A+ 1 person in 3	A- 1 person in 16
B+ 1 person in 12	B- 1 person in 67
AB+ 1 person in 29	AB- 1 person in 167

LITERATURE SURVEY

In “**The Optimization of Blood Donor Information and Management System by Technopedia**” This System is a Web based Android Application. The System consist of two Devices - Android Smartphone and A server (Usually a pc). Donor/Acceptor creates an account and a unique user id and password is given to them. Acceptor can be either the patient or any relative to patient. Every detail is stored in Database (MySQL)[1].

Reference Gap:

1. No Blood Banks are involved.
2. Does Not include organ donation.

In “**A Survey Paper on E-Blood Bank and an Idea to use on Smartphone**” This Blood Bank system is applicable for a Single Blood Bank. All details such as Blood Group, Total units of Blood available, donors details etc are stored in a Database. This System provides unique Id to donors to keep track of records of donor and to retrieve information in future. If Seeker needs blood, Doctor will just use this application on his/her Smartphone to get desired information from a Blood Bank about a particular Blood Type. The use of GPS will advance and fasten the searching technique[2].

Reference Gap:

1. Applicable for single Blood Bank only.
2. Only Doctor can check for availability of blood.
3. Time Consuming and Does not include organ donation.

In “**Android Blood Bank Android Blood Bank is a Web based android application**” User has to create an account. The Details will be stored in Database (MySQL). User will get various options like various Blood Camps nearby, search blood donors, search blood bank, search for a particular blood type etc. GPS can be used to locate nearby Blood Camps, Blood Bank and Hospitals. GPS can also be used to get exact path to Blood Bank in case of emergency to save time[3].

Reference Gap:

1. Does not include organ donation.
2. Not available on windows.

In “**Blood and Organ for Patient using Android Application**” ADMIN will Manage all information in Database like Userids, Passwords, Contact Details(Phone no , email), OTP, Detailsabout Blood(Blood Group, Blood Units) etc. User (Donor/Seeker)-Each User first registers as donor, they fill a login form which identifies them uniquely. Donor/Seeker gets facilities to change password, select blood group etc. Seeker gets extra facilities to make calls and send messages to donor.Database contains each and every detail about blood and organ donation, user details, details of Static Places like-Hospitals, Blood Banks, Medical Stores[4].

Reference Gap:

1. User registers as Donor only.
2. Not available on windows.

In “**Mobile Hospitalization for Kidney Transplantation**” Proposed system is called Smart Mobile Hospital System SMHS is gather Artificial Intelligent (AI), providing access to end users (doctor and nurse) via smart phone and tablets by their authority, monitor kidney patient and their donors by notification between end users to communicate, and this system stored cloudly to gain feature of cloud. SMHS used for monitoring and analyzing Bioanalysis and measuring biomarkers of kidney transplant patients and their donors by using smart phones and tablets for any operating system. Besides, this system also includes the patients injection entry records, medicines and prescriptions[5].

Reference Gap:

1.Does not include blood banking.

PROPOSED SYSTEM

Online Blood Bank and Organ Transplant will be a android application. The purpose of the system is to simplify and automate the process of searching the blood in case of emergency and maintaining the records of blood donors, recipients, blood donation programs and blood stocks in the bank. Using this application blood seeker can search for blood donors and can call or message the donors through this app on android. This application can also be used by organ donor and seeker where person can register for organ donation. Proposed system will contain a Directory which includes details of all Blood Bank across India. User can search Blood Bank using PIN code and typing name of State or city.

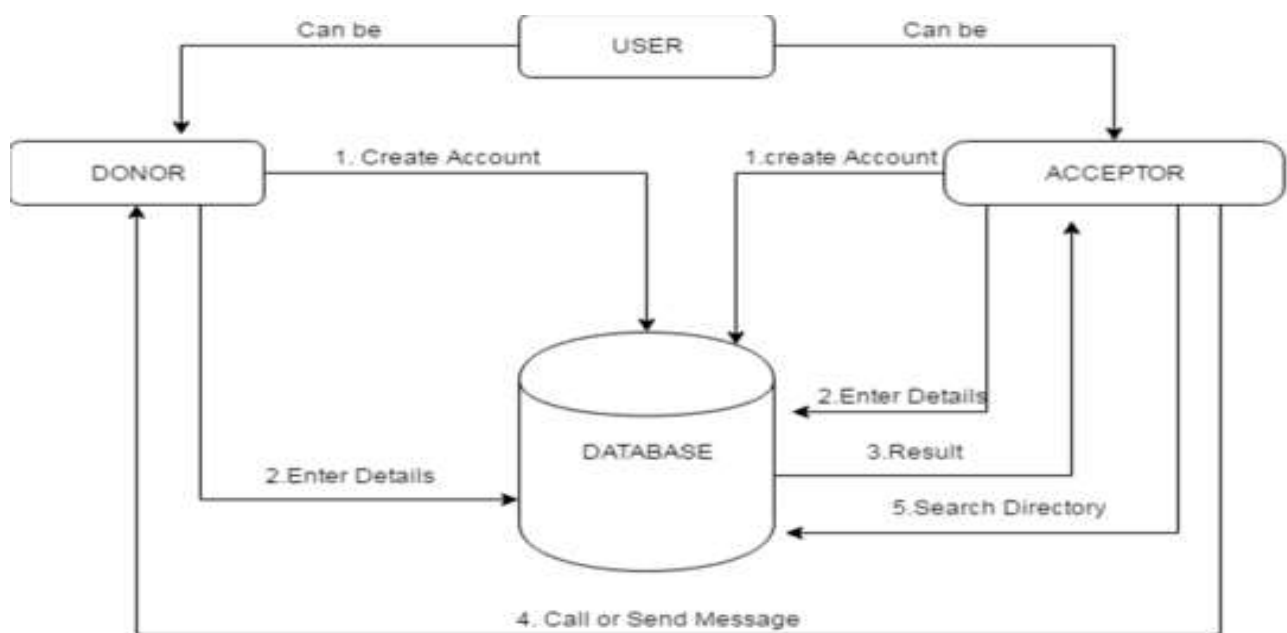


Fig 1: Block Diagram

METHODOLOGY

On Client Side

- The Application Will be built on Android Studio
- XML will be used for front end design
- Java will be used for background processing

On Server Side

- PHP will be used to provide connectivity between the android application and the database(MySql)
- JSON will be used to transmit data from server to application

Use Case Diagram

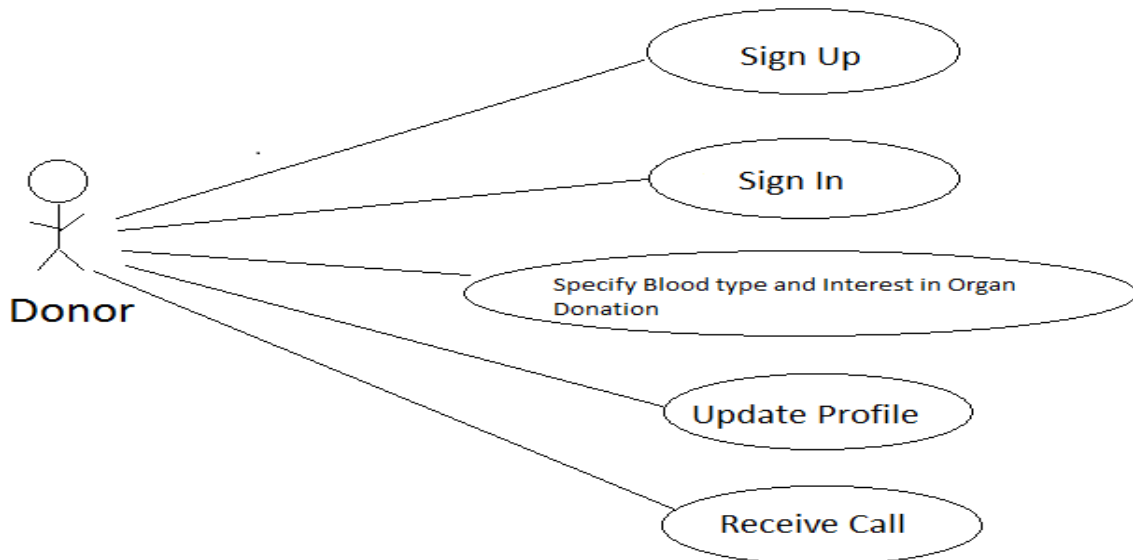


Fig 2: Use Case Diagram For Donor

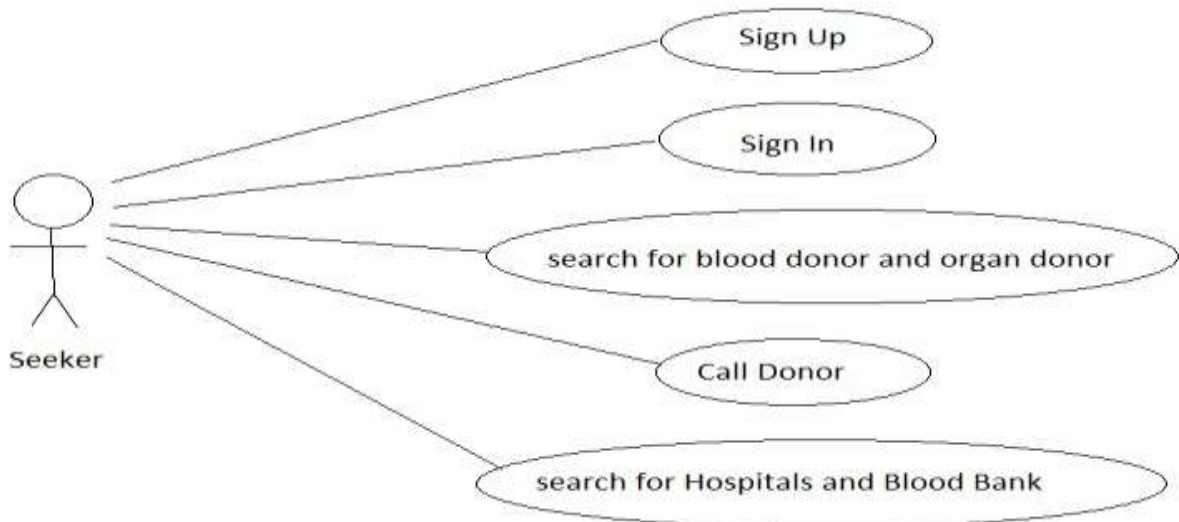


Fig 3: Use Case Diagram For Seeker/Acceptor

Feasibility Study

The very first phase in any system developing life cycle is preliminary investigation. The feasibility study is a major part of this phase. A measure of how beneficial or practical the development of the system would be to the organization is the feasibility study.

Technical Feasibility

1. At least 1GB RAM.

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2. Core 2 Duo Intel Processor.
3. At least 1 GB free hard disk space

CONCLUSION

Online Blood Bank and Organ Transplant will be a website. The purpose of the system is to simplify and automate the process of searching the blood in case of emergency and maintaining the records of blood donors, recipients, blood donation programs and blood stocks in the bank. Using this website blood seeker can search for blood donors and can call or message the donors through this app on android. This website can also be used by organ donor and seeker where person can register for organ donation. Proposed system will contain a Directory which includes details of all Blood Bank across India. User can search Blood Bank using PIN code and typing name of State or city.

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